Manitoba
Agriculture

Information Update

GUIDELINES FOR ESTIMATING
COW-CALF PRODUCTION COSTS
BASED ON A 70 COW HERD

DATE: January, 1989

This guide is designed to provide planning information and a format for calculating costs of production on a start-up cow-calf enterprise. The production costs included in this enterprise budget are not intended as a cost study of the beef industry in Manitoba.

The budget estimates costs of production for 1988 based on a number of assumptions which are clearly defined in the supporting pages. Input costs are based on recommended practices and/or information obtained from producers. Good management is assumed in that a balanced ration is being fed, livestock are on a herd health program and handling facilities are included.

The guideline can be useful for comparison purposes. Comparison of costs at different levels of production can be made with other farms; the farm over time; or comparing the plan with the actual production at the end of the planning period. **Fixed costs are based on new costs.**

The budget may be adjusted by putting your figures in the appropriate column. Each cow-calf producer is encouraged to determine his own costs of production based on his own inputs, pasture program, and management.

For those producers with the Manitoba Beef Commission, premiums would have to be added to the operating costs.

COW-CALF PRODUCTION COSTS
(BASED ON A 70 COW HERD)

		$/Cow/Year	Your Farm
A.	**OPERATING COSTS**		
1.	Feed Costs:		
	1.01 Grain	$ 9.38	
	1.02 Hay	195.00	
	1.03 Salt & Minerals	14.56	
	Total Feed Cost	$218.94	
2.	Other Operating Costs:		
	2.01 Straw	25.00	
	2.02 Vet. Medicine & Supplies	20.29	
	2.03 Breeding Costs	22.73	
	2.04 Machinery, Mtce. & Repairs	25.32	
	2.05 Hydro, Water, Telephone	7.54	
	2.06 Marketing & Transportation	2.83	
	2.07 Death Loss	10.00	
	2.08 Manure Removal	21.43	
	2.09 Miscellaneous	6.00	
	Subtotal Operating Costs	360.08	
	2.10 Operating Interest	25.21	
TOTAL OPERATING COSTS		**$385.29**	
B.	**FIXED COSTS**		
3.	Depreciation		
	3.01 Buildings	$ 14.96	
	3.02 Machinery & Equipment	25.95	
4.	Investment		
	4.01 Buildings	$ 14.96	
	4.02 Machinery & Equipment	19.26	
	4.03 Livestock	100.00	
5.	Herd Replacement	60.75	
TOTAL FIXED COSTS		**$235.88**	
TOTAL OPERATING AND FIXED COSTS		**$621.17**	
6.	Labour	$ 86.40	
7.	Pasture (D. PFRA)	$ 49.71	
TOTAL COST OF PRODUCTION		**$757.28**	

Breakeven price/kg calf:	
A. Operating Costs	$1.74/kg (0.79/lb)
B. Fixed Costs	$1.07/kg (0.48/lb)
Labour and Pasture	$0.62/kg (0.28/lb)
Total Breakeven Price	$3.43/kg (1.55/lb)

Breakeven Price/kg = Cost ÷ 85% calf crop ÷ 260 kg (575 lb) calf weight

ASSUMPTIONS

COW-CALF PRODUCTION COSTS - JANUARY 1988

1. This budget outlines the cost of production for a cow-calf operation with 70 cows, 2 bulls and 85% calf crop weaned.

2. Building and Equipment are valued at new cost.

3. All feed is valued at Fair Market Value.

4. Manure removal contracted out.

5. Replacement heifers are valued at fair market value.

6. This budget assumes an average weaning weight of 575 lbs. (steer calves 600 lbs. and heifer calves 550 lbs.)

WORKSHEET
COW-CALF PRODUCTION COSTS

A. OPERATING COSTS — Your Farm

1. Feed Costs:

1.01 Grain

	60	days/year	
X	1.36	kg barley/cow/day (3.0 lbs)	
X	$0.115	/kg barley* (5.2¢/lb or $2.50/bu)	
=	$ 9.38	/cow	

1.02 Hay

	3.0	tonnes alfalfa brome hay/cow	
X	$ 65.00	/tonne	
=	$195.00	/cow	

1.03 Salt and Minerals

	16.0	kg salt/cow/year	
X	$ 0.26	/kg	
=	$ 4.16	/cow	
	16.0	kg mineral/cow/year	
X	$ 0.65	/kg	
=	$ 10.40	/cow	
=	$ 14.56	/cow Total Salt and Minerals	

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* 1 bushel (bu) barley = 48 lbs = 21.8 kg
1 kilogram (kg) = 2.2046 pounds (lbs)
1 tonne (t) = 1,000 kg

2. Other Operating Costs: Your Farm

2.01 Straw

	1.0	tonne straw/cow/year	
X	$ 25.00	/tonne	
=	$ 25.00	/cow	

2.02 Veterinary Medicine & Supplies

CALF MEDICATION

	$ 0.55	/calf	Blackleg (8 way vaccine)
+	$ 0.35	/calf	IBR
=	$ 0.90	/calf	Total
X	70	cows	
X	85	% calf crop	
=	$ 53.55		
÷	70	cows	
a) =	$ 0.77	/cow	a)

COW MEDICATION

b)	$ 1.80	/cow	(IBR, BVD, PI_3)	b)
c)	$ 3.70	/cow	(scour vaccine admin. twice)	c)
d)	$ 6.50	/cow	(Ivomec - lice, grubs, footrot, surgery)	d)
e)	$ 0.50	/cow	(ADE, 2 treatments)	e)

HERD HEALTH PROGRAM
Professional Services:
$ 60.00/hr for 4 visits/year
(assume 1 visit @ 2 hours, include preg check and 3 visits @ 1 hour = 5 hours total)

	$ 60.00	/hour	NOTE: Preg checking could cost from $1.75-2.50/cow, rather than an hourly rate.
X	5	hours	
=	$300.00		
÷	70	cows	
e) =	$ 4.28	/cow	e)

Transportation:
Assume that herd health charges include transportation; $0.60/km for an 80 km round trip.

	$ 0.60	/km	
X	80	km	
X	4	visits	
÷	70	cows	
f) =	$ 2.74	/cow	f)

$ 20.29 /cow Total Vet. Medicine & Supplies [Total of a) to f)]

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1 kilometre (km) = 0.62 miles

			Your Farm
2.03	**Breeding Costs**		
a)	Feed for Bulls		
	3	tonnes alfalfa brome hay	
X	$ 65.00	/tonne	
X	2	bulls	
÷	70	cows	
=	$ 5.57	/cow	
	3.6	/kg grain/day	
X	120	days	
X	$0.053	/kg	
X	2	bulls	
÷	70	cows	
=	$ 0.65	/cow	
+	5.57	/cow	
=	$ 6.22	/cow Total Feed (Bulls Only)	
b)	Straw for Bulls		
	0.5	tonnes/bull	
X	$ 25.00	/tonne	
X	2	bulls	
÷	70	cows	
=	$ 0.36	/cow/year	
c)	Vet & Medicine for Bulls		
	$ 16.00	/bull (vet & med.)	
+	$ 45.00	(Semen test)	
X	2	bulls	
÷	70	cows	
=	$ 1.74	/cow/year	
d)	Replacement of Bulls		
	$ 2500	/bull; original cost	
-	1000	/bull; salvage value	
=	1500		
÷	4	years of service	
=	$ 375	/bull; depreciation cost	
X	2	bulls	
÷	70	cows	
=	$ 10.71	/cow/year	

Your Farm

e) Investment in Bulls

$$\frac{\text{Original Cost + Salvage Value}}{2} \times \text{Interest Rate}$$

	$ 2500	/bull; original cost	
+	1000	/bull; salvage value	
=	3500		
÷	4	years of service	
=	$ 875	/bull; average value	
X	10	% interest on investment	
÷	100		
=	$87.50	/bull; investment cost	
X	2	bulls	
÷	70	cows	
=	$ 2.50	/cow	

f) Buildings & Pasture Costs for Bulls

Assume the same pasture cost that P.F.R.A. charges for 1 cow without a calf

	$ 42.00	Pasture Cost	
X	2	bulls	
÷	70	cows	
=	$ 1.20	/cow/year	

$ 22.73 /cow Total Breeding Cost (a to f)

g) Other Breeding Alternatives

a) Artificial Insemination - may be another option; $10 to $20 per cow or heifer.

b) P.F.R.A. Community Pasture - breeding fees of $28 per cow or heifer.

2.04 Machinery, Maintenance & Repairs

a) Tractor

fuel:	1.5	hours/day	
X	150	days/year	
X	10	litres/hour	
X $	0.32	/litre (after rebate)	
= $	720.00	fuel	
other: +	450.00	oil, repairs, maintenance	
=	$1170.00		
÷	70.00		
	$ 16.71	/cow	

			Your Farm
b) Truck (1/2 ton)			
fuel:	4000	km/year	
X	18.9	litres/100 km (15 miles/gallon)*	
÷	100		
X	$ 0.40	/litre	
=	$302.40	fuel	
other: +	300.00	oil, repairs, maintenance	
=	$602.40		
÷	70.00		
	$ 8.61	/cow	
+	16.71	/cow	
=	$ 25.32	/cow **Total Mach, Repairs & Maint.**	
2.05 Hydro			
	145	kilowatt hours/cow	
X	$ 0.052	/kilowatt hour	
=	$ 7.54	/cow/year	
2.06 Marketing & Transportation			
a) Trucking			
	9	cull cows	
X	1100	lbs/cow	
X	$ 1.25	/cwt (trucking cost)	
÷	100		
÷	70	cows	
=	$ 1.77	/cow	
b) Selling Commission			
	10	cull cows	
X	1100	lbs/cow	
X	$ 45.00	/cwt, selling value	
÷	100		
X	1.5	% commission on sales	
÷	70	cows	
=	$ 1.06	/cow	
+	1.77	/cow	
=	$ 2.83	/cow **Total Marketing & Trans.**	

(Budget does not include a premium for Beef Plan)

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litres/100 km = $\frac{1}{\text{(miles/gallon)} \times 0.00352}$

1 imperial gallon = 4.55 litres

cwt = hundred-weight = 100 lbs.

2.07 Death Loss — Your Farm

	70	cows
X	1	% death loss
X	$1000	/cow
÷	70	cows
= $	10.00	/cow

2.08 Manure Removal

Budget assumed a custom charge of $1500. It was estimated that it would take two men with a crawler and one truck two days to clean the lots and pole barns. (Value of manure was not taken into account)

	$1500	annual cost for removal
÷	70	cows
= $	21.43	/cow

2.09 Miscellaneous

(Includes expenses relating to farm records, administration, office supplies & telephone)

$ 6.00 /cow

2.10 Operating Interest

(Operating interest is charged on one half of the subtotal operating costs)

	360.08	Subtotal operating costs
÷	2	
X	14	% operating interest rate
= $	25.21	/cow

B. FIXED COSTS

3. Depreciation:

$$\frac{\text{Original Cost - Salvage Value}}{\text{Useful Life}}$$

3.01 Buildings:

$	3,120	Bull Yard & Calving Pens
	13,260	Main Wintering Lot & Pole Barn
	1,575	Well
	2,995	Handling Facilities
= $	20,950	
-	0	Salvage Value
= $	20,950	
÷	20	years useful life
÷	70	cows
= $	14.96	/cow

Your Farm

3.02 Machinery & Equipment

a) Water System and Feed Bunks

	$2,965	Original Value	
-	0	Salvage Value	
=	2,965		
÷	10	years useful life	
÷	70	cows	
=	$ 4.24	/cow	

b) Tractor and Loader

	$ 35,000	Original Value	
X	40	% usage in Cow-Calf Enterprise	
=	$ 14,000	Portion for Cow-Calf Enterprise	
-	20	% Salvage Value	
=	$ 11,200		
÷	10	years useful life	
÷	70	cows	
=	$ 16.00	/cow	

c) Miscellaneous Machinery
(Post auger and driver, wagon and other miscellaneous tools along with a portion of half-ton truck)

	$ 6,000	Original Value	
-	20	% Salvage Value	
=	4,800		
÷	12	years life expectancy	
÷	70	cows	
=	$ 5.71	/cow	

$ 25.95 /cow Total Machinery & Equipment

Your Farm

4. Investment:

$$\frac{\text{Original Cost + Salvage Value}}{2} \times \text{Interest Rate}$$

4.01 Buildings

$ 3,120	Bull Yard & Calving Pens	
13,260	Main Wintering Lot & Pole Barn	
1,575	Well	
2,995	Handling Facilities	
= $ 20,950		
+ 0	Salvage Value	
= $ 20,950		
÷ 2		
X 10	% investment interest rate	
÷ 70	cows	
= $ 14.96	/cow	

4.02 Machinery & Equipment

a) Water System and Feed Bunks

$ 2,965	Original Value	
+ 0	Salvage Value	
= $ 2,965		
÷ 2		
X 10	% investment interest rate	
÷ 70	cows	
= $ 2.12	/cow	

b) Tractor and Loader

$ 35,000	Original Value	
X 40	%	
= $ 14,000	Portion for Cow-Calf Enterprise	
+ 20	% Salvage Value	
= $ 16,800		
÷ 2		
X 10	%	
÷ 70	cows	
= $ 12.00	/cow	

			Your Farm
c)	Miscellaneous Machinery		
	$ 6,000	Original Value	
+	20	% Salvage Value	
= $	7,200		
÷	2		
X	10	% investment rate	
÷	70	cows	
= $	5.14	/cow	
= $	19.26	Total Machinery & Equip. Depreciation	
4.03	Livestock		
	$ 1,000	/cow	
X	10	% investment rate	
= $	100.00	/cow	
5.	Herd Replacement (Cows only)		
	$ 900.00	/replacement heifer	
-	495.00	/cull cow	
= $	405.00		
X	15	% replacement rate	
= $	60.75	/cow	
6.	Labour		
	9	hours/cow/year	
X $	9.60	/hour	
= $	86.40	/cow	

7. Pasture Costs

Budget examined four different pasture programs with varying land values and carrying capacities. Choose the one that applies to your farm. Cattle were pastured for 150 days.

A. Marginal Land: Land values at $247/hectare ($100/acre) with carrying capacity of 3.2 hectares (7.9 acres) per cow. Property taxes are $1/hectare ($0.40/acre). Fence costs are $1,425/km ($2,280/mile) for the 7.2 km (4.5 miles) of fence required.

			Your Farm
A1	Depreciation on fence (no salvage value)		
	7.2	km	
X	$ 1,425	/km	
=	$10,260	fence cost	
÷	20	years useful life	
÷	70	cows	
=	$ 7.33	/cow	
A2	Investment		
A2.1	Fence (no salvage value)		
	$10,260	fence cost	
÷	2		
X	10	% investment rate	
÷	70	cows	
=	$ 7.33	/cow	
A2.2	Land		
	3.2	hectares/cow	
X	70	cows	
=	224	hectares	
X	$247.00	/hectare	
X	10	% investment rate	
÷	70	cows	
=	$ 79.04	/cow	
A3	Taxes		
	224	hectares	
X	$ 1.00	/hectare	
÷	70	cows	
=	$ 3.20	/cow	
	$ 96.90	**Total Pasture Cost of Marginal Land**	

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1 hectare = 2.471 acres

B. Crop Land: Land valued at $800 per hectare ($325/acre) with a carrying capacity of 1.2 hectares (3 acres) per cow. Property taxes are $10/hectare ($4.05/acre). Fence costs are $1,425/km for the 4 km (2.5 miles) of fence required.

B1 Depreciation on fence (no salvage value)

	4.0	km
X	1,425	/km
=	$ 5,700	fence cost
÷	20	years useful life
÷	70	cows
=	$ 4.07	/cow

B2 Investment

B2.1 Fence (no salvage value)

	$ 5,700	fence cost
÷	2	
X	10	% investment rate
÷	70	cows
=	$ 4.07	/cow

B2.2 Land

	1.2	hectares/cow
X	70	cows
=	84	hectares
X	$800.00	/hectare
X	10	% investment rate
÷	70	cows
=	$ 96.00	/cow

B3 Taxes

	$10.00	/hectares
X	84	hectare
÷	70	cows
=	$12.00	/cow

$116.14 Total Pasture Cost of Crop Land

C. Crown Land: Crown land pasture cost is based on crown rental rate of $180/quarter which includes property tax. Carrying capacity is estimated at 11 cows per quarter. Fence costs are $1,425/km for the 8.0 km of fence required.

C1 Depreciation on fence (no salvage value)

	8.0	km
X	1,425	/km
=	$11,400	fence cost
÷	20	years useful life
÷	70	cows
=	$ 8.14	/cow

C2 Investment

C2.1 Fence (no salvage value)

	$11,400	fence cost
÷	2	
X	10	% investment rate
÷	70	cows
=	$ 8.14	/cow

C2.2 Land Rental (includes taxes)

	70	cows
÷	11	cows/quarter
=	6.36	quarters
X	$ 180.00	/quarter, rental rate
=	$1144.80	
÷	70	cows
=	$ 16.35	/cow/year

$ 32.63 Total Pasture Cost of Crown Land

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1 quarter section = 65 hectares = 160 acres

D. P.F.R.A.: Community pasture grazing fee is estimated at $0.28/cow/day plus $9/calf/season. Season is 150 days.

D1	Cows		Your Farm
	$ 0.28	/cow/day	_____
X	150	days	_____
=	$42.00	/cow	

D2	Calves		
	70	cows	_____
X	85	% calf crop	_____
=	60	calves	_____
X	$9	/calf/season	_____
=	$540		_____
÷	70	cows	_____
=	$7.71	/cow/year	_____
	$49.71	**Total P.F.R.A. Cost**	_____

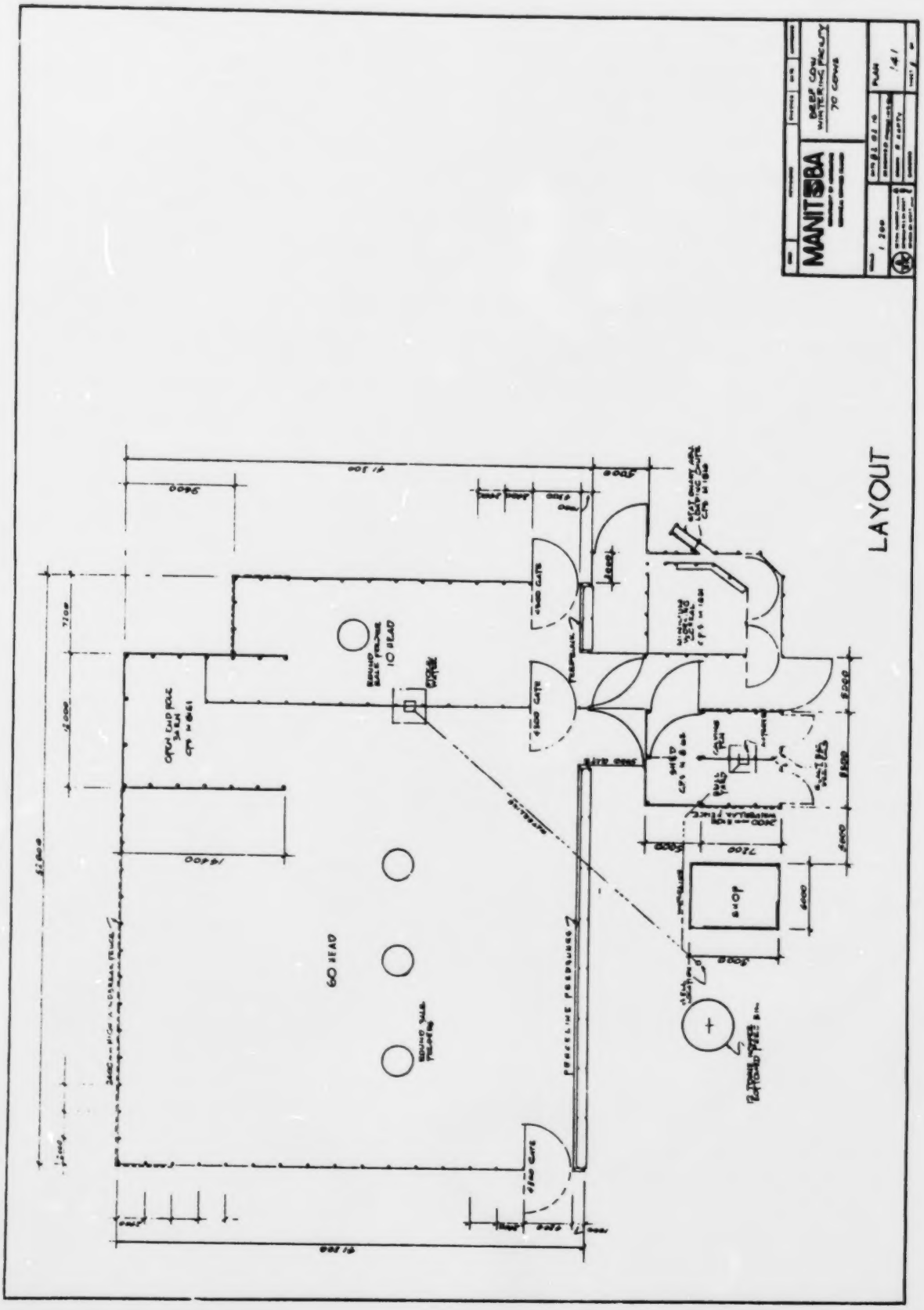
FOR MORE INFORMATION SEE YOUR LOCAL MANITOBA AGRICULTURE OFFICE.

Budget
Prepared By:

Peter Blawat
Farm Management Specialist

John Corbey
Farm Management Specialist

Rob McNabb
Beef Program Specialist


MANITOBA
BEEF COW WINTERING FACILITY
70 COWS
LAYOUT
60 HEAD
10 HEAD
SHOP
FENCELINE FEEDBUNKS